



Puerto Rican radiology institute speeds up reporting by 40%

Customer Story

Puerto Rico's Consolidated Radiology Complex (CRC) in the city of Caguas is one of the first on the island to implement speech recognition for report creation. The facility, which transcribes some 28,000 lines per month, has reduced its report turnaround time by 30-40%, resulting in more efficient care. The rising number of consultations, which triggered a 40% increase in dictation volume between 2005 and 2006, can be managed without hiring additional transcription resources – thanks to significantly improved working conditions for transcriptionists.



Transcriptionists benefit from the time saved through speech recognition.

Delivering healthcare efficiently

Discovered in 1493 by Christopher Columbus, Puerto Rico became an unincorporated territory of the USA in 1898. Today, the island has a population of 3.6 million - the great majority of which are US citizens.

The health reforms of 1993 led to the privatization of public facilities, with the government financing a medical insurance program contracted to the private sector. By late 2000, all municipalities had been incorporated into the health reform plan, with 99% insured and 1.8 million participants in the Government of Puerto Rico health insurance plan. Puerto Rico's current healthcare system has around 13 public and 45 private hospitals with a total of more than 12,000 beds. Specialized institutions act as service providers to hospitals and general practitioners; one of them being the Consolidated Radiology Complex serving the southern and northeastern areas of the island.

Radiology consultations in particular are critical to diagnostics and treatments and many hospitals and GPs depend on the fast delivery of the results to be able to continue treatment. Amazingly, time is often wasted dealing with administration – with long waiting times between the dictation of the report by the radiologist and the transcription of the report by the transcription team. Reasons for the transcription bottleneck

vary from cost restrictions to the difficulty of finding good medical transcriptionists. In this respect, the situation in Puerto Rico is very similar to that in mainland USA.

CRC's president, Dr. Jorge Haddock, decided to make a difference by implementing speech recognition in order to solve both of the aforementioned issues: to reduce the costs associated with transcribing medical reports and increase the productivity of the transcriptionists in an attempt to facilitate faster diagnosis and medical reporting.

Identifying improvement potential

Until September 2005, CRC was using a digital dictation system. According to Marirosi Martinez, CRC's transcription manager, digital dictation has helped, but falls somewhat short in handling the increasing number of patients. They either had to invest in new transcription staff, accept long waiting times for reports or outsource more work to external service providers. "Outsourcing is an option, but there are quality and confidentiality issues which, in the end, prevented us from resorting to additional outsourcing services," Marirosi explains.

Another option was speech recognition, which would provide the transcriptionists with a draft of the dictation, so that they only had to correct it.

PHILIPS

After an extensive evaluation period, Marirosi and her team decided to add speech recognition to their digital dictation solution. They opted for Crescendo Speech Processing powered by SpeechMagic™ – the speech recognition technology from Philips. SpeechMagic supports network-based architecture, interfaces with other healthcare applications and provides a specialized recognition vocabulary (ConText) for radiology. Because the six radiologists at CRC dictate their reports in English, the US Radiology ConText has been implemented.

Completing the solution

CRC has installed various software modules in order to implement a customized dictation and transcription solution. Radiologists dictate directly into their PCs in real time. Once a dictation is completed, it is intelligently routed to either the SpeechMagic Server, or directly to the transcriptionist, depending on the preferences set. “This flexibility is critical, as some radiologists do not dictate regularly, which is why SpeechMagic can’t adapt to their dictation style. Their dictations are therefore routed directly to the transcriptionist for conventional transcription,” Marirosi explains. As SpeechMagic is an intelligent technology, it automatically learns from each dictation. New words can be added to the ConText, which is a central application ensuring that all users benefit from word additions. As difficult medical terminology is recognized correctly, the quality of the reports has improved significantly: “I really benefit from the time saved through speech recognition”, Marirosi expresses. “Managing the team has become easier and more effective, as stress levels have been reduced and the quality of the reports has improved.”

Transcriptionists have six different work type categories: CT Scan, MRI, X-ray, Mammography, Sonography and Bone Densitometry. They only type the specific code configured for each work type in order to pull up the corresponding template, which includes the font type and size, CRC’s logo and the patient’s information. Thanks

to SpeechMagic they type far less: Although CRC has experienced a 40% increase in dictation volume, the facility didn’t have to hire additional staff. Existing staff were even able to reduce report turnaround by 30-40%.

To record a dictation, radiologists use the Philips SpeechMike with integrated Barcode Scanner. Thus they can easily retrieve the work type and patient ID number from the patient record by scanning the barcode label. The barcode label is generated by the receptionist prior to the consultation. “The SpeechMike device is very

and what they won’t find in the new system”, she recommends. “And above all, define exactly what you expect from the system for now and for the future.”

Crescendo took CRC’s requirements into account and Marirosi is completely satisfied with the way they were implemented. “But no matter how good the preparation is, you will always find things that are different from what you expected. Solve them as early as you can. Don’t wait; it will cause you a lot of trouble and cost you a lot of money”, advises Marirosi. Thanks to the



CRC's transcription team reduced report turnaround by up to 40%, despite a significant increase in dictation volume.

comfortable and doctors just love it, although in the beginning it was difficult to convince them to change”, said Marirosi.

Communication is everything

In fact, change management is one of the key factors when it comes to implementing speech recognition. Marirosi noted that many people are resistant to change, and is convinced that open communication is the key to reducing any anxieties related to the introduction of new technologies.

“Prepare everyone who is to be involved in the process. Prepare the transcriptionist; distribute all the information you have. Talk to the doctors, administrators – tell them what they will find

fast and professional service received, CRC now has an “excellent” speech recognition system, something on which the facility can build for the future: “We are already looking into ways of interfacing the report creation system with the Radiology Information System”, says Marirosi. This will further speed up radiology reporting, as the patient data will automatically be included in the dictation.

CRC is on the right track and now has a reporting system that complies with international standards. Report turnaround time has been reduced. MRI and CT scans, which generate long reports, are now available within 3 to 5 minutes, compared with 5 to 10 minutes previously. This reduces the waiting times for patients and referring physicians alike, as well as the costs associated with medical transcription.



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